REMARKS

The specification is objected to because the Examiner asserts that hardness values have no units and disagrees with the numerical values stated in the specification for the hardness of the first and second bond pad layers.

Claim 1 is objected to because Young's Modulus was spelled incorrectly. By this amendment claim 1, as well as all other similar occurrences have been amended for clarification purposes.

Claims 8 and 18 are rejected under 35 USC §112, first paragraph, because the Examiner asserts that the specification does not provide sufficient description to allow one skilled in the art to make or use a device wherein the hardness of the first layer of the bond pad is about 0.8 and the hardness of the second layer of the bond pad is about 0.6.

Claims 1-20 are rejected under 35 USC §102(b), as allegedly being anticipated by Havemann et al. (US 6,130,156, hereinafter " Havemann").

Applicants respectfully traverse the objections to the specification and the §§ 112 and 102(b) rejections with the following arguments.

SPECIFICATION

Applicants respectfully assert that hardness measurements do have units, contrary to the Examiner's assertions. Applicants direct the Examiner's attention to Fig. 27 of "An improved technique for determining hardness and elastic modulus using load and displacement sensing indentation experiments", (refer to Appendix A), which shows the hardness values of aluminum, for a variety of applied loads, measured in GPa. (W.C. Oliver and G.M.Pharr, "An improved

technique for determining hardness and elastic modulus using load and displacement sensing indentation experiments", J. Mater. Res., vol. 7, no. 6, June 1992, pp. 1564-1583.) Moreover, Fig. 27 shows the hardness value for aluminum to be about 0.6 GPa as set forth in the present application. Applicants also direct the Examiner's attention to Fig. 8 of "Mechanical Stress as a Function of Temperature in Aluminum Films", (refer to Appendix A), which shows the hardness of aluminum to be in the range of about 0.6-0.9 GPa for films having a thickness in the range of 100-800 nm, as stated in paragraph [0029] of the present application. (Donald S. Gardner and Paul A. Flinn, "Mechanical Stress as a Function of Temperature in Aluminum Films", IEEE Transactions on Electron Devices, vol. 35, no. 12, Dec. 1988, p. 2167.)

Accordingly, Applicants assert that hardness values clearly do have units of measure, e.g., GPa, and the hardness values set forth in the present application are accurate.

35 U.S.C. §112

Again, Fig. 8 of the "Mechanical Stress as a Function of Temperature in Aluminum Films", (*id.*), shows the hardness value for aluminum to be in the range of about 0.6-1.0 GPa for the thickness range set forth in the present application. Clearly, forming an aluminum-based alloy comprising at least 2% titanium, copper, silicon or tungsten will have a hardness value within the designated range set forth in the present application and depicted in the cited reference, namely, about 0.6-0.8 GPa.

35 U.S.C. § 102(b)

Applicant respectfully contends that Havemann does not anticipate independent claims 1,

7 and 13 because Havemann does not teach each and every feature of these claims.

For example, Havemann does not teach depositing a non-conductive layer over a surface of the second layer of the bond pad material, as recited in claims 1 and 13 of the present application. In addition, Havemann does not teach forming a wirebond interconnection in mechanical and electrical connection with the second layer, as recited in claims 1, 7 and 13 of the present application.

The Examiner asserts that layer 11 of Havemann corresponds to the first layer of bond pad material of the present invention, while layer 13 of Havemann corresponds to the second layer of bond pad material of the present invention. Accordingly, layer 15 of Havemann would correspond to the non-conductive layer deposited over the surface of the second layer of the bond pad material recited in claims 1 and 13. Layer 15 of Havemann, however, is a conductive aluminum layer, not a non-conductive layer as required by claims 1 and 13. Additionally, there is no mention in Havemann of forming a wirebond interconnection, as required by claim 7 of the present application.

Therefore, Applicants respectfully maintain that Havemann does not anticipate claims 1, 7 and 13, and that claims 1, 7 and 13 are in condition for allowance. Furthermore, since claims 2-5 depend from claim 1, claims 8-11 depend from claim 7, and claims 14-19 depend from claim 13, Applicant contends that claims 2-5, 8-11 and 14-19 are likewise in condition for allowance.

Conclusion

Based on the preceding arguments, Applicant respectfully believes that claims 1-5, 7-11 and 13-19 and the entire application meet the acceptance criteria for allowance and therefore request favorable action. However, should the Examiner believe anything further is necessary in order to place the application in better condition for allowance, or if the Examiner believes that a telephone interview would be advantageous to resolve the issues presented, the Examiner is invited to contact the Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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APPENDIX A:

References Relating to Hardness